

Rediscovery of *Amorphophallus longistylus* (Araceae), a little known rare Endemic species from Middle Andaman, India

M. Sivadasan and V. Abdul Jaleel

Department of Botany, University of Calicut
Calicut University P.O., Kerala - 673 635, India

Abstract

Amorphophallus longistylus Kurz ex Hook. f., a little known rare and narrow endemic aroid species has been rediscovered from Middle Andaman, after about 131 years of its first collection. A detailed description together with illustrations of the species is provided.

INTRODUCTION

The genus *Amorphophallus* Blume ex Decaisne, is a member of the tribe Thomsonieae of the sub-family Aroideae and has about 170 species distributed in tropical Africa, Madagascar, tropical Asia, Malay Archipelago, Melanesia and Australasia (Mayo, Bogner & Boyce, 1997). It is the second largest genus of Araceae occurring in India represented by about 16 species. According to Engler (1911) the genus is divided into 11 sections.

The species *A. longistylus* was first collected by Kurz during his visit to the Andaman Islands in the months of April - June in 1866. No later collections are known to have been made. The herbarium specimens of first collection of this species are available in Kew (K) and Calcutta (CAL). During a recent field trip carried out in connection with the research project on 'Revision of Indian Araceae' the species was rediscovered from the evergreen forest in Panchawati, Middle Andaman. The present collection is the second authentic collection of the species after about 131 years of its discovery and first collection by Kurz. The two plants of this species were collected in vegetative stage during November, 1997 and were introduced in the Calicut University Botanical Garden. One of them flowered in May, 1998. The detailed study of the inflorescence confirmed the identity of the species.

There are only very limited information and description about the species and the only main source is the original description provided by Hooker (1893) based on that by Kurz (1870) in his official reports submitted in 1866. The description of the species in Engler's (1911) treatment contained some more details of the flower. Srivastava and Rao (1993) provided the description of the species purely based on that of Hooker which was very scanty.

M. Sivadasan and V. Abdul Jaleel

Therefore, a more detailed description and illustrations are provided here to help easy identification of this little known rare and narrow endemic species.

Amorphophallus longistylus Kurz (Rep. Andaman 50. 1866, *nomen*) ex Hook. f., Fl. Brit. India VI : 515. 1893; Engler, Pflanzenr. 48(IV. 23C): 83. 1911; Srivastava & Rao, Higher Pl. Ind. Subcont. 32-32. 1993. (Fig. 1).

Tuberous herbs; tuber sub-globose, 5.0 - 6.5 cm diam. and 4.0-5 cm thick in vegetative phase, ca. 6.2 cm in diam. and 4.2 cm thick in reproductive phase, skin pale brown or dark creamy in colour. Roots numerous, cream in colour, ca. 8.5-11.5 cm long. Leaf solitary, trichotomously decompound with petiole cylindrical, rough, 43-71 cm long, 1-2.5 cm diam. at base, slightly tapering to the tip, pale greenish with greenish black and white mottles and with white elongated or round thickened projections; lamina 44-57 cm diam.; leaflets sessile, ovate to oblong, apex acuminate, base decurrent on rachis, 6.5-12 cm long and 2.8-4.6 cm broad; greenish above, paler below with pinkish tinge along veins, margins and lamina tip; margin undulate; primary veins closely parallel, 12-14 pairs, united below the margin by arches forming sub-marginal collective veins; depressed above and projected below.

Inflorescence with peduncle cylindrical, rough, ca. 30.5 cm long, 1.0 cm in diam., surrounded at base by 3-4 cataphylls; each cataphyll 3-13 cm long, 2.2-3.4 cm broad, smooth, tip acute, creamy-purplish with green patches, tip purplish. Spathe erect, ovate lanceolate, ca. 18.5 cm long, 9.5 cm broad at the base, 10.5 cm at the middle, tip acute, basal 2/3 portion convolute to ca. 11 cm, 3 cm diam. at the base, 3.5 cm diam. at the middle and 2.5 cm just below the expanded top; upper 1/3 limb portion expanded with longitudinal shallow folds on either sides of the mid-portion; light purplish with greenish black blotches and small dark spots on the outside, more on the basal tube, smooth; dark purplish and verrucose at base, pale purplish and smooth above with few light greenish-black blotches above within. Spadix longer than spathe, exerted, ca. 26 cm long, differentiated into a basal short stipe, a fertile portion of female and male zones above, and a terminal sterile naked appendix; stipe to ca. 0.4 cm long, ca. 0.7 cm diam., cream coloured with purplish tinge; female zone ca. 2.4 cm long with about 60-70 flowers, loosely arranged in spiral sequence; each flower ca. 5-6 mm high, ovary shallowly 3-5-lobed, greenish yellow in colour, ca. 2.5 mm diam., 1.75 mm high, 3-5-locular, each locule with a single basal, axile anatropous ovule; style ca. 3 mm long, 1 mm diam. at the base and 1.5 mm at the tip, dark purplish in colour with longitudinal ridges at the upper portion; stigma 3-5, each 2-lobed, 2 mm diam., creamy in colour; male zone longer than female zone, ca. 3.2 cm long, and 1.3 cm diam.; male flowers closely arranged, each ca. 1.5 mm diam. and 2 mm high, sessile, inconspicuously 2-lobed, yellowish-creamy in colour with purplish tinge on the connective at top, dehiscence by apical slits appearing as pores; fruits not observed. Spadix appendix cylindrical, gradually tapering to the tip, ca. 20 cm long, ca. 1.2 cm diam. at base and 0.2 cm at top.

Flowering : May-June.

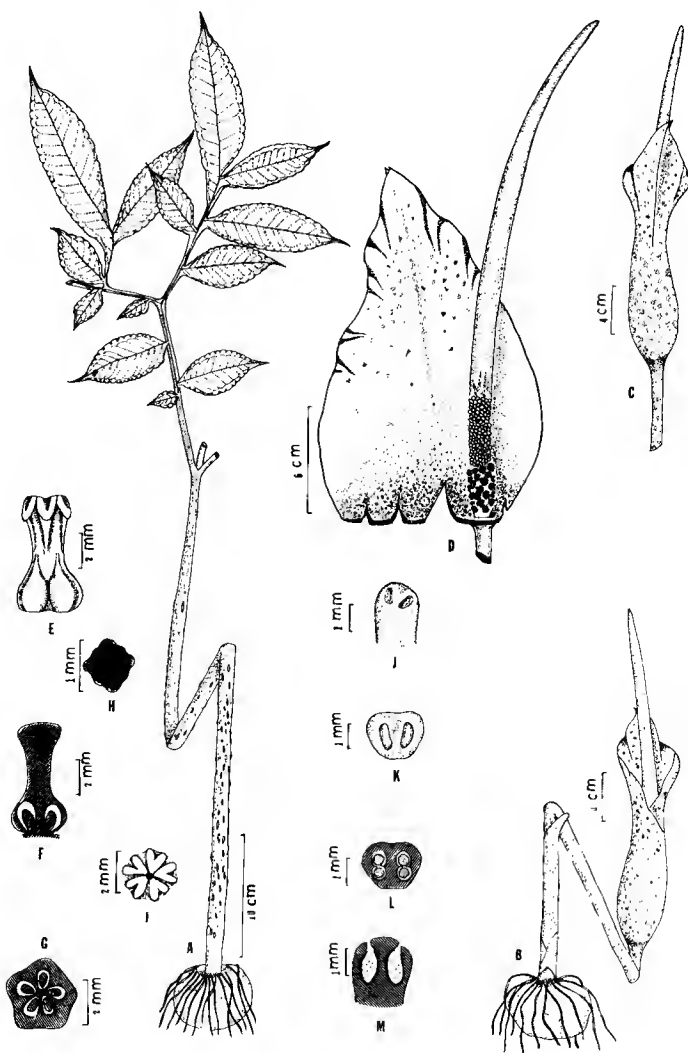
Rediscovery of *Amorphophallus longistylus* (Araceae)

Fig. 1. *Amorphophallus longistylus* Kurz ex Hook. f. A. Habit - with leaf; B. Habit - with inflorescence; C. Inflorescence - view from back; D. Inflorescence - with spathe cut open showing spadix; E. Female flower; F. Female flower - L.S.; G. Ovary - C.S.; H. Style - C.S. just below the stigma; I. Stigma - view from top; J. Male flower; K. Dehiscent male flower - view from top showing the openings; L. Male flower - C.S.; M. Male flower - L.S.

M. Sivadasan and V. Abdul Jaleel

Distribution: A narrow endemic known to occur only in Andaman Islands.

Specimens examined: South Andaman, date nil, *S. Kurz s.n.* (CAL, K); Middle Andaman, Panchawati, 7th Dec. 1997, *Jaleel & Bobby Thomas RIA 224* (Leaf) (CALI); Kerala state, Calicut University Botanical Garden, 2nd May 1998, *Jaleel & Sivadasan RIA 275* (Inflorescence); *ibid.*, 21st May 1998, *Jaleel & Sivadasan RIA 227* (Leaf) (CALI). (Originally collected by Jaleel and Bobby Thomas as *RIA 224* on 7th Dec., 1997 from Panchawati, Middle Andaman and introduced in the Calicut University Botanical Garden).

Acknowledgements

The Research Grant provided by the Department of Science and Technology, Govt. of India for revision of Indian Araceae is gratefully acknowledged. Sincere gratitude is expressed towards Mr. Raghavan Kavalan, Post-graduate Teacher in Biology, Jawahar Navodaya Vidyalaya, Middle Andaman, the officers of the Forest Department, Andaman & Nicobar Islands and Mr. Vinod Kumar, Deputy Resident Commissioner, Andaman Islands for providing various help for specimen collection in the Islands. The first author is grateful towards the director of the Kew Herbarium (K) and the Keeper of the Central National Herbarium (CAL), Calcutta for permitting him to consult the herbaria.

Literature cited

- Engler, A. 1911. Araceae - Lasioideae. In: A. Enger (Ed.), *Das Pflanzenreich* 48 (IV.23C). Wilhelm Engelmann, Leipzig. pp.1-130.
- Hooker, J. D. 1893. *Flora of British India*. L. Reeve & Co. Ltd., England. Vol. 6 : 515.
- Kurz, S. 1870. *Report on the vegetation of Andaman Islands*. (Ed. 2). Office of the Superintendent of Government Printing, Calcutta.
- Mayo, S. J., J. Bogner & P. C. Boyce. 1997. *The genera of Araceae*. Royal Botanic Gardens, Kew. pp.235-240.
- Srivastava, S. K. & P. S. N. Rao. 1993. The family Araceae in Andaman and Nicobar Islands. In: *Higher Plants of Indian Subcontinent*. (Addl. Ser., *Ind. J. Forestry*, No.VII). Bishen Singh Mahendra Pal Singh, Dehra Dun. Vol. 4: 31-33.